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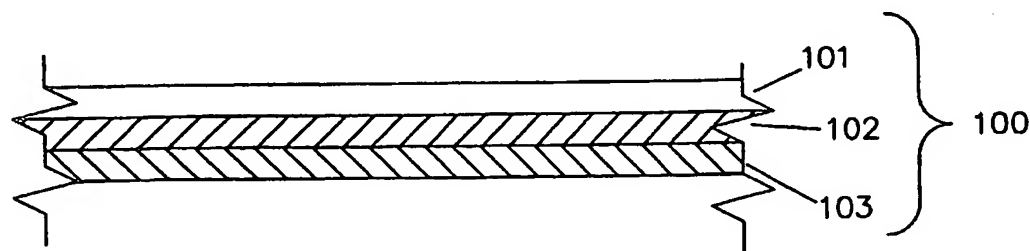
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(54) Title: LITHIUM THIN FILM LAMINATION TECHNOLOGY ON ELECTRODE TO INCREASE BATTERY CAPACITY



(57) Abstract: Lithium is laminated onto or into an electrode structure comprising a metal conducting layer with an active material mixture of, for example, a nano-composite of silicon monoxide, together with graphite and a binder, such as polyvinyl di-fluoride (PVDF). The lamination of lithium metal onto or into the electrode structure will reduce the amount of irreversible capacity by readily supplying a sufficient amount of lithium ions to form the initial solid electrolyte interface. In order to laminate lithium metal onto or into the negative electrode, the lithium is first deposited onto a carrier, which is then used to laminate the lithium metal onto or into the electrode structure. The next step is placing the coated electrode material and the lithium-deposited plastic between two rollers or two plates. The rollers or plates are heated to about 120° C or within the range of 25° C to 250° C. A pressure of 50 kg/cm² to 600 kg/cm² is applied to the rollers. The speed of movement of the materials through the roller pair or the plate pair is in the range of 10 cm/min to 5 m/min. The method can be used for either single-sided or double-sided coating. Using this technology alone, the battery capacity can increase by 7% to 15%.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

PAJ, EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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| | -/- | |

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☒ Patent family members are listed in annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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